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VARIOUS.

Japanese Bronzes.

Mr. Consul Flowers, in a report on the commerce of Hiogo and Osaka, Japan, lately issued by the Foreign Office, thus speaks of the manufacture of Japanese bronzes: "The moulds, which of course vary according to the shape of the vase or bowl it is desired to make, are made of wood, sometimes covered with straw. On this a coating of clay is placed; over this comes a layer of wax, which is moulded into the design required. Another thick coating of clay is then added, and the inner wooden mould being taken out the orifice at each end is closed. Two holes are then made at one end connecting with the layer of wax, so as to enable the wax, when melted, to run out, and through these the molten bronze enters, filling the interstices occupied by the wax. The subsequent process of casting is of the rudest kind. The earthen mould is placed in a small clay oven hollowed out in the floor of the workshop, the size of which depends upon that of the casting. The oven is then filled with charcoal and closed, with the exception of a circular opening at the top, on which a chimney, a foot or so high, is built of wet clay. The oven is connected underground with a wooden bellows, protected from the sparks and heat from the furnace by a small earthen or stone wall a foot high, and which is worked by hands and feet. The first operation is to melt the wax, which runs out, leaving the impression of the design stamped firmly in the surrounding layer of clay. This done, the mould is taken out and allowed to cool. It is then put a second time into the furnace as before, and the molten bronze is then poured into the mould through the holes by which the wax escaped. After the bronze has filled the mould the chimney is knocked off, the oven supplied with fresh charcoal laid evenly around the mould, and a lid being put on the oven, furnished with small perforated holes, the bellows are set to work again for an hour or more, according to the size of the casting taken. This operation generally occupies a day. When the casting is taken out of the oven, the earth outside and inside is scraped off, and reveals the vase or bowl in a rough state. It is then put into the hands of rude workmen, boys being mostly employed in this part of the work, by whom it is polished and scraped with a knife until it presents a smooth surface. It then passes on to the carver, who fills in the details of the designs. When his work is done the vase or bowl is dipped into a boiling solution of vinegar, sedge, and sulphate of copper, in order to give it the proper colour. A few finishing touches in the way of polish are added, and the article is finished and ready for sale."

Scientific American.

Paper Stockings.

We have heard of paper furniture, paper carpets, paper curtains, paper ceiling decorations, paper blankets, and a large variety of other articles made of the same useful material. To the many articles of dress made of paper, some of which enjoy great popularity, we must now add one more item, i. e. paper stockings. These, which are the invention of a native of New Jersey, are intended to be worn over the ordinary cotton or woollen stockings, thereby excluding all cold and dampness from the feet.

The Furniture Gazette.

Painting on new Woodwork.

As the knots in wood (particularly pine) are a great annoyance in painting, great care should be taken to "kill" them, as the painters term it. The following methods have by experience been found to have the desired effect. Upon those knots that retain the turpentine, it is necessary to lay with a stopping-knife a thick substance of lime, immediately after its being slaked, for the purpose of burning or drying up the turpentine. After the lime has remained on about twenty-four hours it should be scraped off, and the parts washed over with size-knotting, which is made of red and white lead, ground very

fine with water on a stone, and mixed with strong double size, in a liquid state, which is done by holding it over a fire for a few minutes; it must be applied to the knots while warm. Another method is to grind white and red lead in the same proportions in turpentine, to the consistency of dough, and then to reduce it with Japan goldsize till it becomes like thin paint. Lay it smoothly on the knots, observing to cover it entirely, otherwise a defect will be visible. Another plan sometimes adopted is to apply Japan gold-size to the knot, and previously to its drying apply a piece of gold or silver leaf upon it. It is necessary that the knots should be rubbed on with fine sand-paper every time they are covered, to prevent their appearing above the surface. When the knotting is thoroughly dry, the priming colour must be laid on, which is made by breaking up the white lead in linseed oil, the following being the proportions of the mixture: To every 10 lb. of white lead add a quarter of a pound of dryers and a quarter of a pound of red lead; then lay it all over the work about to be painted.

After the priming is thoroughly dry, use a bit of sand-paper and rub it gently over the work, so that no lumps or skin may adhere to it. Then apply the second coat, which is mixed in the following manner: — Break up the same quantity as before, with half a pound of dryers in two parts of linseed oil to one of turpentine. After rubbing it down as before directed when thoroughly dried, the third coat is applied to be mixed as follows: — Break up the same quantity as before in half linseed oil and half turpentine; proceed as before. If a fourth coat be given, break up the same quantities, and use two parts linseed oil to one of turpentine. If the work is required to be flatted, the lead must be thinned entirely with turpentine. In painting stucco it is necessary to give one coat more than wood. The more the colours are mixed with oil, and the less with turpentine, the better, as turpentine is more adherent to water than the oil, and consequently not so well adapted for preserving outside work. For inside work the above proportions are correct, and in general use.

The Furniture Gazette.

A Valuable Cabinet-making Wood.

The following information in regard to the great value of the ailanthus as timber is taken from a paper on the subject by Prof. C. S. Sargent: In experiments made in the French dock-yard at Toulon, where the wood of this tree was tested as to its tenacity, or ability to resist a strain, in comparison with the timber of European elm and oak, an average of seven trials showed that the ailanthus broke with a weight of 72,186 pounds, while the elm in a similar number of trials yielded to 54,707 pounds, and the oak, in the average of ten specimens, broke under a weight of 43,434 pounds. Evidence as to the value of ailanthus timber in exposed situations and as to its durability when set in the ground is yet meagre, but the little that we have is favourable. Of its value for interior work and for cabinet-making there can be no doubt, the wood possessing properties remarkable in so rapid-growing a tree. The wood is at first of a pale straw-colour, but grows somewhat darker with age, and takes a high polish. When cut to show the silver grain it presents a satiny lustre, and as regards freedom from warping and shrinking it is superior to walnut and fully equal to mahogany. It is said to cut up economically, seasons readily, is easily worked, is free from unpleasant odour, and has no ill effects on the tools. For the treads of stairs, the floors of offices, mills, and other buildings, where constant use requires a hard, strong wood, it is probably superior to any of the woods commonly employed in such situations. There is one use for which its freedom from tendency to shrink will especially commend it — i. e. interior finishing. Its warm colour will make it very effective, when used with both lighter and darker woods.

The Furniture Gazette.